1: Burrows--49-50 (1947-48) Woleaians 1-3
116, 358, 483, 401, 335 Ifalik

"Although no large buildings were constructed during our stay, techniques of lifting massive timbers into position were exemplified by replacement of beams in two canoe-houses. In October a huge breadfruit log, more than two feet in diameter and sawed through at one end, drifted ashore from parts unknown. Such figts of the sea are the main source of supply for corner-posts of the canoe-houses. It was decided to use this one to replace a rotting post in the canoe-house called Fale Pënga.

First the log was rolled ashore. Poles or light logs were thrust under it on the landward side to serve as skids. Similar posts were used on the seaward side as levers.

The hole in which the old post stood was now widened by digging on the outer side. Temporary supports for the roof at this corner were lashed together and put in position. The type of support used is shown in Fig. 7, a. At first the upper ends of the two pairs of uprights slanted toward each other at a considerable angle, greater than that shown in the sketch.

A double lever (Fig. 7, b) was now made of coconut logs to hoist the roof. There was room enough for more than a dozen men to work on it at a time. Their efforts were coordinated by a responsive song or chantey. As the sketch shows, the lift was transmitted to the stringer of the house through a crosspiece and upright post.

The height gained by each lift of the lever was secured by moving the lower ends of the supports toward each other, making the uprights more nearly vertical. The crosspieces at the base, to prevent them from slipping out again, were then repegged in the

new position. With the supports in position to take the weight of the roof, the lever was released and made ready for another lift by moving the fulcrum a little nearer the raising end. When the roof was high enough to give the necessary clearance to the corner posts, the supports were pegged in a final, nearly vertical position. They were then supplemented by a log cut to just the right length and set upright under the stringer a little in from the supports.

With the roof securely out of the way, the post to be replaced was removed. A heavy line, made up of six strands of the large size of sennit rope used for morring[sic] canoes, was fastened around its upper end. A fairly light pull on this was enough to topple the upper end of the post out from under the roof, so that its outer side rested against the side of the hole. It was then taken out of the hole by hauling on the line. This was the stage of the job requiring the greatest application of power. The haul on the line was supplemented by prying on levers thrust under the inside of the post (Fig. 4, c). At one time 39 men were hauling on the line. At the crucial moment some of [50] the women, who had been looking on and encouraging the workers, took a hand themselves. To prevent the post from slipping back while the workers paused for breath, the line was snubbed around two trees, passing from left to right around one of them, from right to left around the other (Fig. 7, d).

The new post, it now appeared, was a little longer than the old one. The hole for it was dug deeper, an easier task than cutting through the massive post again with axes

and hand saws. As the hole was deepened, it began to fill with water. The prospect of the water rotting the post at the bottom did not disturb anyone. When the hole had reached the necessary depth, one end of the new post was hauled into position over the hole. The other end was raised by the same techniques of prying on levers and hauling on a line that had served to remove the old one. The bottom of the post slid into the hole. It was then carefully lowered into the same position the old one had occupied. By holding the roof with the big lever while the bases of the supports were spread apart, a little at a time, the roof was gradually lowered back into position. The hole about the post was filled in and tamped. The temporary supports were removed, and the task was finished.

The whole process made nearly a full day's work for all the available men of Rauau district. It was done in the afternoon of one day and the morning of the next. Men were coming and going every now and then, so no one figure would give the number of workers accurately. The largest number actually busy at any one moment would be the 39 counted hauling on the line, plus three or four more with levers."

"Another repair job, requiring somewhat different techniques, became necessary in December, when the stringer that held up one side of the canoe-house Sabwōlap broke in two. Coconut logs, the only timber available for these long stringers, are not well adapted to the purpose. As their centers are rather pithy, the lateral stress imposed by the weight of the roof must be taken mostly by the thin shell of hard wood on the outside. Squared beams of a solider wood form the stringers of the men's house; but there are not enough logs of the necessary length to supply these for the canoe-houses.

In order to take out the broken stringer and replace it with another coconut log, it was necessary to raise one whole side of the roof. Accordingly, a row of temporary supports was required, instead of the pair that had sufficed for the corner-post replacement. But they were of lighter construction: pairs of light logs, crossed like an X, and held together with lashings at the top middle, and bottom (Fig. 8, a). Light logs, lashed under the rafters to take the weight of the roof while the stringer was being replaced, rested in the upper lashing of the X supports. The lower lashings helped to prevent spreading and settling. They were reinforced by pegs driven in at the base.

The roof was lifted, bit by bit, by means of a lever of coconut log. Since only part of the roof was raised at a time, a single log served for a lever, instead of the pair used on the corner-post job. The vertical post that transmitted the thrust of the lever to the roof rested at the bottom in a notch cut in this log. At the top it was lashed under one of the logs that temporarily supported the roof. The height gained by each lift was taken

up by narrowing each of the X supports tightening their lashings, and shifting the pegs (Fig. 8, b). Elderly men and boys worked on the supports, while young men at the height of [51] their strength worked on the lever. Getting the roof tilted to the necessary height, by many repetitions of this process, took about half a day.

The new stringer was now lifted into position. First each end of it was lifted upon a post, which leaned against a pile of crossed logs about waist high (Fig. 8, c). Then the ends were lashed to these posts at the point which would bring the new stringer into position on top of the corner-posts when the supporting posts were vertical. Long, stout lines were attached at each end. The log was now raised into position, with all available men hauling on the lines. At first a few lifted by hand on the ends of the log. At the hardest part of the pull, women, too, took a hand on the lines.

By releasing the lashings gradually, the new stringer was settled into position on the corner posts. Then the roof was let down on it gradually by reversing the process used to lift it; that is, it was held with the lever while the X supports were widened, then let down into the new position.

The stress of tilting and lowering the roof was too much for a tie-beam that supported one of the king-posts. It broke just as the roof was being settled into place. Apparently this piece of hard luck was not altogether unexpected; at least the men took it with good-natured resignation. Another lifting and lowering job was now required in order to replace the tie-beam.

1: Burrows--50-51 (1947-48) Woleaians-3
116, 358, 401, 483, 335 Ifalik

A log of pandanus, cut to reach exactly from the ground to the ridge-pole, was set up as a temporary substitute for the king-post. (This temporary structure was of the same type as that used permanently to support the ridge-pole of the men's house.) It was set up on a slant at first, then gradually raised into vertical position as the roof was lifted. This was done with levers and X supports, as before, except that a new type of lever was brought into use. A scaffold was built, consisting of four uprights, with crosspieces lashed to them at various heights. These cross-pieces served as fulcrums for the lever, higher ones being used as the roof gained height. Small supplementary levers were used part of the time. When the roof was raised clear, the new tie-beam was lifted into place by the same technique as that used for the stringer. The king post, a comparatively light piece, was passed up by hand to men standing on the tie-beam. Supplementary uprights were set up under the new tie-beam. These, and the temporary post holding up the ridge-pole, were left in place for several days, in case the new tie-beam was too weak for its load. When it proved to be adequate, the temporary supports were removed."

1: Burrows--117
116, 358, 466

(1947-48)

Woleaians
Ifalik

"Maroligar as superintendent of repairs on a canoe-house, was quite a different person. He sat in the shade, rarely speaking, and only by careful watching could it be seen that he kept a closer eye on the proceedings than any of those who were resting between spells of work.

At crucial moments he did indeed give orders; but so did nearly everybody else. When a big timber was being lifted into place, or when some post or lashing seemed about to give way, the almost continual quiet chatter among the men rose to a hubbub. Everybody yelled what might be called either orders or vehement suggestions; few gave heed. Under those conditions, it was a surprise to us foreign observers that the work went along as well as it did. One probable reason for the fairly steady progress, in spite of these recurring crises, was that the procedure was governed, in main outline, by tradition. Except for a beginner or two, everybody had done essentially the same job time and time again. Even the beginners had watched just such jobs from early childhood."

28: Spiro--35 [2]
116, 358, 476, 462

(1947-48) 1949

Woleaians
Ifalik

"If a canoe-house needs repair, the chief of the district will inform the men, and on the scheduled day, they will assemble for the task. If it is a relatively minor task, only the men of the district will cooperate in the work, but if it is a major one, all the men of the island will assist, and at times, many from the other island will participate. In other public works, the thatching of a roof, or the clearing of the bush, the women assist as well, and where women participate there is a complete separation of the sexes, the men confined to one section, the women to another."

28: Spiro--35 [4]
116, 462, 476, 358

(1947-48) 1949

Woleaians
Ifalik

"The participation of the women is not always restricted to the lighter work. Where man-power is required, as in the raising of the entire frame of the canoe-house, which is accomplished by a complicated lever principle, the women work with the men in pulling and straining on the ropes which lift the frame."

28: Spiro--36
116, 358, 784

(1947-48) 1949

Woleaians-1-2
Ifalik

"When doing major construction work, there are a number of taboos and rites which are practiced. Food is taboo until the completion of the job, so that the meal is very welcome when it comes. If the job requires more than a day for its completion food may be eaten only at the end of the day's work, and then the men must resume their fast until the completion of the next day's work. (2) Women and children are not permitted near the canoe-house during these major operations, and those living adjacent to it must

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"2. This fasting illustrates, I believe the psychology of all sacrifice--fasting of course being a sacrifice, the sacrifice of food. You sacrifice a lesser good in order to obtain a greater good. Conversely, you accept a lesser evil in order to avoid a greater evil. In this case you sacrifice food in order to retain life and/or limb, and there is little question but that abstinence from food is a great sacrifice in this culture. Lest the reader ask how the native might lose life or limb, I should point out that the beams and pillars of the canoe-houses are huge, and if a person were to be struck by one he might very well be injured or killed."

remain in their houses. This is sharply contrasted with the other repair jobs in which children are very much in evidence, shouting, playing, laughing, and getting in the way. Furthermore, on these major jobs, the men wear young, white coconut branch strips about their arms and their ankles, which serves as talismen, and protect them from falling beams and other forms of potential injury."

28: Spiro--36 [2]
116, 784, 358, 158, 264

(1947-48) 1949

Woleaians
Ifalik

"If a man is engaged in constructing something new, he may not participate in the repair of an old object. For example, since Tom was building a new canoe he could not participate in the repair of his own canoe house when it needed rethatching. Should a person violate the taboo, he becomes ill. (3)

The day after the job is completed, the chiefs may tell the men to go fishing, while the women prepare food, and then a feast is held, each household bringing his own food and fish, but all eating together. A characteristic of these feasts, and of other feasts following a religious rite is the complete absence of conversation during the meal. The people eat uninterruptedly, no one speaking to any one, let alone holding a conversation."

"3. This taboo on the mixing of opposites is a symptom found quite widely in obsessive compulsive neurotics."